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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/735,595

12/12/2003

Raymond C. Kurzweil

14202-005001

1751

26161 7590 06/11/2009

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EXAMINER

DUFFY, DAVID W

ART UNIT

PAPER NUMBER

3714

NOTIFICATION DATE

DELIVERY MODE

06/11/2009

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

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Office Action Summary	Application No. 10/735,595	Applicant(s) KURZWEIL, RAYMOND C.	
	Examiner DAVID DUFFY	Art Unit 3714	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 April 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|----------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>04/16/2009</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Status of Claims

1. This office action is in response to the amendment filed 04/16/2009. Claims 1-25 are pending.

Continued Examination Under 37 CFR 1.114

2. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 04/16/2009 has been entered.

Information Disclosure Statement

3. The information disclosure statement (IDS) submitted on 04/16/2009 is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

Double Patenting

4. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422

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F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

5. Claims 1-25 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-21 of copending Application No. 10/734616, claims 1-20 of copending Application No. 10/734617, claims 1-26 of copending Application No. 10/734618, and claims 1-20 of copending Application No. 10/735294. Although the conflicting claims are not identical, they are not patentably distinct from each other because the claims are directed to substantially similar subject matter of a remote sensing body and goggles for viewing the remote images.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claim Rejections - 35 USC § 112

6. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

7. Claim 25 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one

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skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The claim recites the limitation “wherein the mannequin is a humanoid robot having the first body suit with tactile sensors and actuators.” Examiner was unable to find any instance in the disclosure of the robot or mannequin wearing a body suit.

Claim Rejections - 35 USC § 103

8. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

9. Claims 1, 12, 14 and 18-23 rejected under 35 U.S.C. 103(a) as being unpatentable over Choy et al. (US 6695770) in view of Sandvick; Warren J. et al. (US 6368268 B1) and Yee et al. (US 6016385).

10. In regard to claims 1 and 14, Choy discloses a virtual reality encounter system comprising: a mannequin coupled to a computer system wherein the mannequin is fitted with appropriate sensors that are connected to the computer system to transmit to another location and user device over a network (3:23-25), a headset, to display morphing animations and animated textures on the appropriate avatar (1:63 and 9:65-10:6) and a processor that overlays a virtual environment over one or more portions of a video image to form a virtual scene (8:47-58 and 9:65-10:6). Choy lacks explicitly stating the use of a camera for each user.

11. In related prior art, Sandvick teaches that users engaging in remote sexual relations may use cameras and microphones to interact with each other (3:10-26). One

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of ordinary skill in the art would readily recognize that persons engaging in sexual relations would likely enjoy being able to see and hear each other.

12. Therefore it would have been obvious to one skilled in the art at the time of the invention to have modified Choy in view of Sandvick to have utilized a real-time camera feed and microphones to provide video and audio interaction with the persons engaging in sexual relations so that they might have a more meaningful interaction. The combination made does not explicitly disclose that the camera would be supported by mannequin.

13. In related prior art, Yee discloses a robot system wherein an operator controls the robot and receives sensory information from the robot, including a pair of cameras corresponding to the remote user's eyes coupled to the robot for receiving a video image where the cameras send the video images via a communication network to the user (5:11-37). One skilled in the art would recognize the advantages of providing video signals that accurately recreate the human audio visual reception to a remote user in order to provide a visual connection for the users in a position that most accurately recreates normal human perception.

14. Therefore it would have been obvious to one skilled in the art at the time to combine the camera configuration of Yee with the two person configuration of Choy to provide a more realistic experience to both remote users in a networked environment.

15. In regard to claims 12 and 22, Choy discloses a headset that communicates through a wireless link inherently including a receiver (3:41-46).

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16. In regard to claims 18, 20, 21 and 23 Choy discloses that the robot has life-like features, the robot comprising: a body (fig 2). Choy further discloses that the system employs a headset with stereo audio and a wireless connection (3:41-46). Choy lacks disclosing a microphone attached to the robot located in ear canals or cameras located in eye sockets.

17. In related prior art, Yee discloses teaches a robot having life-like features including a body (fig 3), and a microphone coupled to the body, wherein the body includes an ear canal and the microphone is positioned within the ear canal (4:52-5:1) and the body includes an eye socket and the camera is positioned in the eye socket (5:11-37) and the command and sense signals between the robot and the user may be over wireless connection (9:9-11). One skilled in the art would recognize the advantages of replicating human perception for a remote controlled robot.

18. Therefore it would have been obvious to one skilled in the art at the time to combine the virtual reality system of Choy with the teachings of Yee because as Yee suggests, the virtual interface of the robot, camera in eye socket and microphone in ears, is intended to make the robot more friendly in appearance to a second user, and the microphones in the ears add the benefit of being able to relay to the user a sense of direction of a sound and the cameras in the left and right eye sockets provide the user with information in a three dimensional format similar to how a human would normally view an environment (4:52-5:49).

19. In regard to claim 19, Choy discloses a robot at a first location and a set of goggles at a second location (9:65-11:17); a second humanoid robot in the second

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location having life-like features and rendering acquired video and audio signals received from a communications network into a user headset (9:65-11:17). Choy further discloses sending audio and visual signals to the headset of the user (fig 1 and 3:10-4:55). The combination lacks explicitly disclosing sending audio and video signals from a second microphone and camera coupled to a second robot.

20. In related prior art, Sandvick teaches that users engaging in remote sexual relations may use cameras and microphones to interact with each other (3:10-26). One of ordinary skill in the art would readily recognize that persons engaging in sexual relations would likely enjoy being able to see and hear each other.

21. Therefore it would have been obvious to one skilled in the art at the time of the invention to have modified Choy in view of Sandvick to have utilized a real-time camera feed and microphones to provide video and audio interaction with the persons engaging in sexual relations so that they might have a more meaningful interaction.

22. Claims 2-11, 13 and 15-17 rejected under 35 U.S.C. 103(a) as being unpatentable over Choy in view of Sandvick and Yee as applied to claim 1 above, and further in view of Dundon (US 7046151).

23. In regard to claims 2 and 15, Choy discloses wherein the mannequin is a humanoid robot having tactile sensors positioned along the exterior of the robot (2:4-32); the sensors sending tactile signals to a communications network (8:9-15). Choy further discloses wherein the user wears gloves with vibrotactile stimulators, or actuators, receiving data from the system (6:50-67), but does not explicitly disclose a body suit.

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24. In related prior art, Dundon discloses an interactive body suit that permits users to interact over a network whereby the garment includes tactile actuators, the tactile actuators receiving tactile signals from the network (abstract). One skilled in the art would recognize the advantages of recreating tactile feelings over the entire body when participating in virtual congress.

25. Therefore it would have been obvious to one skilled in the art at the time to combine the body suit of Dundon with the system of Choy because, as Dundon suggests (29:36-55), an interactive body suit that covers a user with embedded oscillating motors provides a more realistic and interactive sensory environment when providing force feedback sense of touch and would further the stated goal of Choy (6:65-67) to enable the users to feel the virtual partners.

26. In regard to claims 3 and 16, Choy discloses motion sensors positioned throughout the body suit (5:46-67), the motion sensors sending motion signals corresponding to movements of each sensor relative to a reference point 0, the motion signals transmitted to the communications network (5:46-67); and a humanoid robot, receiving, from the communications network, the motion signals from the motion sensors (9:65-10:32), the motion signals from the motion sensors causing a movement of the robot that is correlated to a movement of the body suit (3:11-25, 6:1-49 and 7:20-23).

27. In regard to claims 4 and 17, Choy discloses that the robot includes motion actuators corresponding to the motion sensors, the motion actuators causing the robot to move (7:20-23 and 8:1-15).

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28. In regard to claims 5-6, 10-11 and 13 Choy discloses that the robot has life-like features, the robot comprising: a body (fig 2). Choy further discloses that the system employs a headset with stereo audio and a wireless connection (3:41-46). Choy lacks disclosing a microphone attached to the robot located in ear canals or cameras located in eye sockets.

29. In related prior art, Yee discloses teaches a robot having life-like features including a body (fig 3), and a microphone coupled to the body, wherein the body includes an ear canal and the microphone is positioned within the ear canal (4:52-5:1) and the body includes an eye socket and the camera is positioned in the eye socket (5:11-37) and the command and sense signals between the robot and the user may be over wireless connection (9:9-11). One skilled in the art would recognize the advantages of replicating human perception for a remote controlled robot.

30. Therefore it would have been obvious to one skilled in the art at the time to combine the virtual reality system of Choy with the teachings of Yee because as Yee suggests, the virtual interface of the robot, camera in eye socket and microphone in ears, is intended to make the robot more friendly in appearance to a second user, and the microphones in the ears add the benefit of being able to relay to the user a sense of direction of a sound and the cameras in the left and right eye sockets provide the user with information in a three dimensional format similar to how a human would normally view an environment (4:52-5:49).

31. In regard to claims 7 and 9, Choy discloses a robot at a first location and a set of goggles at a second location (9:65-11:17); a second humanoid robot in the second

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location having life-like features and rendering acquired video and audio signals received from a communications network into a user headset (9:65-11:17). Choy further discloses sending audio and visual signals to the headset of the user (fig 1 and 3:10-4:55). The combination lacks explicitly disclosing sending audio and video signals from a second microphone and camera coupled to a second robot.

32. In related prior art, Sandvick teaches that users engaging in remote sexual relations may use cameras and microphones to interact with each other (3:10-26). One of ordinary skill in the art would readily recognize that persons engaging in sexual relations would likely enjoy being able to see and hear each other.

33. Therefore it would have been obvious to one skilled in the art at the time of the invention to have modified Choy in view of Sandvick to have utilized a real-time camera feed and microphones to provide video and audio interaction with the persons engaging in sexual relations so that they might have a more meaningful interaction. The combination made does not explicitly disclose that the camera would be supported by mannequin.

34. In related prior art, Yee discloses a robot system wherein an operator controls the robot and receives sensory information from the robot, including a pair of cameras corresponding to the remote user's eyes coupled to the robot for receiving a video image where the cameras send the video images via a communication network to the user (5:11-37). One skilled in the art would recognize the advantages of providing video signals that accurately recreate the human audio visual reception to a remote user in

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order to provide a visual connection for the users in a position that most accurately recreates normal human perception.

35. Therefore it would have been obvious to one skilled in the art at the time to combine the camera configuration of Yee with the two person configuration of Choy to provide a more realistic experience to both remote users in a networked environment.

36. In regard to claim 8, Choy discloses the communications network includes a first communication gateway in the first location and a second communication gateway in the second location (9:65-10:6), the second processor connected to the first processor via a network (7:64-8:38 and 11:1-12).

37. Claims 24-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Choy et al. (US 6695770) in view of Sandvick; Warren J. et al. (US 6368268 B1), Yee et al. (US 6016385) and Dundon (US 7046151).

38. In regard to claim 24, Choy discloses a mannequin coupled to a computer system wherein the mannequin is fitted with appropriate sensors that are connected to the computer system to transmit to another location and user device over a network (3:23-25) and a body suit with motion sensors and gloves with vibrotactile stimulators, or actuators, receiving data from the system (5:1-6:67), motion sensors positioned throughout the body suit sending motion signals corresponding to movements to a communications network (5:46-67), and a set of goggles for displaying images from the system (3:41-4:55). Choy does not explicitly disclose a first and second camera on a first and second mannequin.

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39. In related prior art, Sandvick teaches that users engaging in remote sexual relations may use cameras and microphones to interact with each other (3:10-26). One of ordinary skill in the art would readily recognize that persons engaging in sexual relations would likely enjoy being able to see and hear each other.

40. Therefore it would have been obvious to one skilled in the art at the time of the invention to have modified Choy in view of Sandvick to have utilized a real-time camera feed and microphones to provide video and audio interaction with the persons engaging in sexual relations so that they might have a more meaningful interaction. The combination made does not explicitly disclose that the camera would be supported by mannequin.

41. In related prior art, Yee discloses a robot system wherein an operator controls the robot and receives sensory information from the robot, including a pair of cameras corresponding to the remote user's eyes coupled to the robot for receiving a video image where the cameras send the video images via a communication network to the user (5:11-37). One skilled in the art would recognize the advantages of providing video signals that accurately recreate the human audio visual reception to a remote user in order to provide a visual connection for the users in a position that most accurately recreates normal human perception.

42. Therefore it would have been obvious to one skilled in the art at the time to combine the camera configuration of Yee with the two person configuration of Choy to provide a more realistic experience to both remote users in a networked environment.

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The combination made does not explicitly disclose motion actuators disposed over the body suit.

43. In related prior art, Dundon discloses an interactive body suit that permits users to interact over a network whereby the garment includes tactile actuators, the tactile actuators receiving tactile signals from the network (abstract). One skilled in the art would recognize the advantages of recreating tactile feelings over the entire body when participating in virtual congress.

44. Therefore it would have been obvious to one skilled in the art at the time to combine the body suit of Dundon with the system of Choy because, as Dundon suggests (29:36-55), an interactive body suit that covers a user with embedded oscillating motors provides a more realistic and interactive sensory environment when providing force feedback sense of touch and would further the stated goal of Choy (6:65-67) to enable the users to feel the virtual partners.

45. In regard to claim 25, Choy discloses the mannequin is a humanoid robot with tactile sensors (2:4-32) and tactile actuators (3:11-25, 6:1-49 and 7:20-23), but does not explicitly state that the sensors and actuators are in a body suit on the robot.

46. In related prior art, Dundon discloses an interactive body suit that permits users to interact over a network whereby the garment includes tactile actuators, the tactile actuators receiving tactile signals from the network (abstract). One skilled in the art would recognize the advantages of a removable body suit to contain the sensors to ease repair or replacement.

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47. Therefore it would have been obvious to one skilled in the art at the time to use a body suit to hold the sensors to ease repair and replacement of the sensors and actuators over the internally mounted equipment of Choy.

Response to Arguments

48. Applicant's arguments filed 04/16/2009 have been fully considered but they are not persuasive. Applicant argues that the specification enables claim 25. Examiner disagrees. In the passage cited by applicant as support, there is no mention of a body suit at all. Additionally, the passages specifically states that the actuators are in the robot, not on it or in a body suit. How could the actuator be in a body suit on the robot and in the robot at the same time?

49. Applicant's arguments regarding *KSR* and the TSM test are not persuasive. Examiner does not contend that the Court overturned the TSM test in the *KSR* decision. The Court clearly did not do so. But the Court made it clear that the TSM test was not the ONLY test for obviousness. For instance, the Court ruled, that combining known elements in a known manner to yield predictable results would be obvious to one of ordinary skill. In the present case, Choy and Yee teach elements known to the art at the time of Applicant's invention. No one can argue that the techniques used to combine these elements would be beyond the level of ordinary skill. Nor could anyone argue that the results would be anything but predictable. Therefore, Examiner must conclude that the claimed invention is obvious over the prior art.

50. Applicant's arguments concerning the combination of Choy and Yee are not persuasive. Applicant argues that there is no logical line of reasoning as to why the

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references would suggest using a camera to obtain images to overlay. As examiner has previously and repeatedly asserted, it is reasonable to assume that persons engaging in sexual relations either in person or vicariously through surrogates would want to see each other. While applicant appears to disagree with this conclusion, no evidence has been presented to refute this notion. Applicant repeatedly questions the line of reasoning or denies that it exists without actually refuting the examiner's arguments. Choy explicitly discloses using video images as part of the virtual scene that it creates. Yee explicitly teaches using a camera for remote image acquisition. As thoroughly expounded and evidenced by Sandvick persons engaged in remote sexual intercourse would reasonably be expected to want to view their sexual partner.

51. Additionally, applicant states that Choy is silent as to the use of a camera for capturing an image. As Choy explicitly states it is able to use photographs and video recordings, it is inherent that a camera has been used in the process. There is no other way to create photographs or video recordings than with a camera. There is nothing in Choy that precludes or teaches against using a remote camera for the images and as examiner has previously contested, persons engaging in sexual relations would reasonably be expected to want to see each other.

52. It is further noted that applicant's claims do not necessitate any actual exchange of video between users. The claims recite a virtual scene which overlays one or more portions of the image. Reasonably this would include the entirety of the image as applicant's own examples include replacing background and modifying or replacing the images of the remote person as well. The system of Choy already provides the

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framework for overlaying and compositing images from video sources. Choy already allows for the recording of the remote user and compositing their images within the virtual scene presented. Nothing in applicant's claims require that the exchange be in real time.

53. Other arguments are addressed above or moot in view of the new grounds of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DAVID DUFFY whose telephone number is (571) 272-1574. The examiner can normally be reached on M-F 0830-1700.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter Vo can be reached on (571) 272-4690. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic

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Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/D. D./

Examiner, Art Unit 3714

/Corbett Coburn/
Primary Examiner
AU 3714